Figure 1:

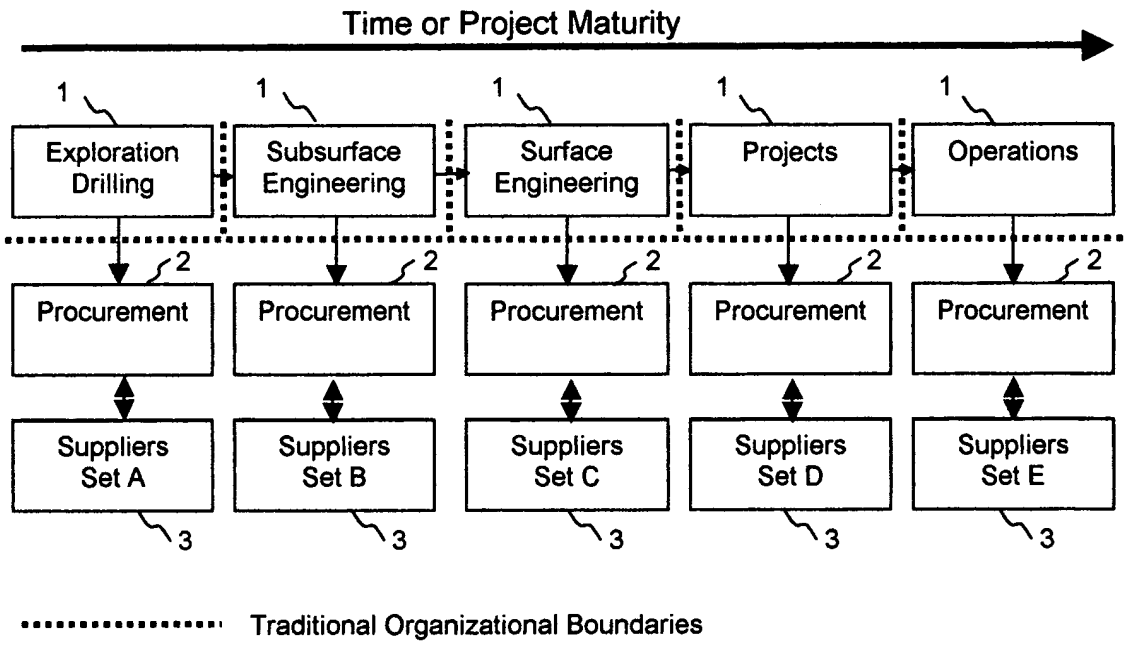


Figure 2:

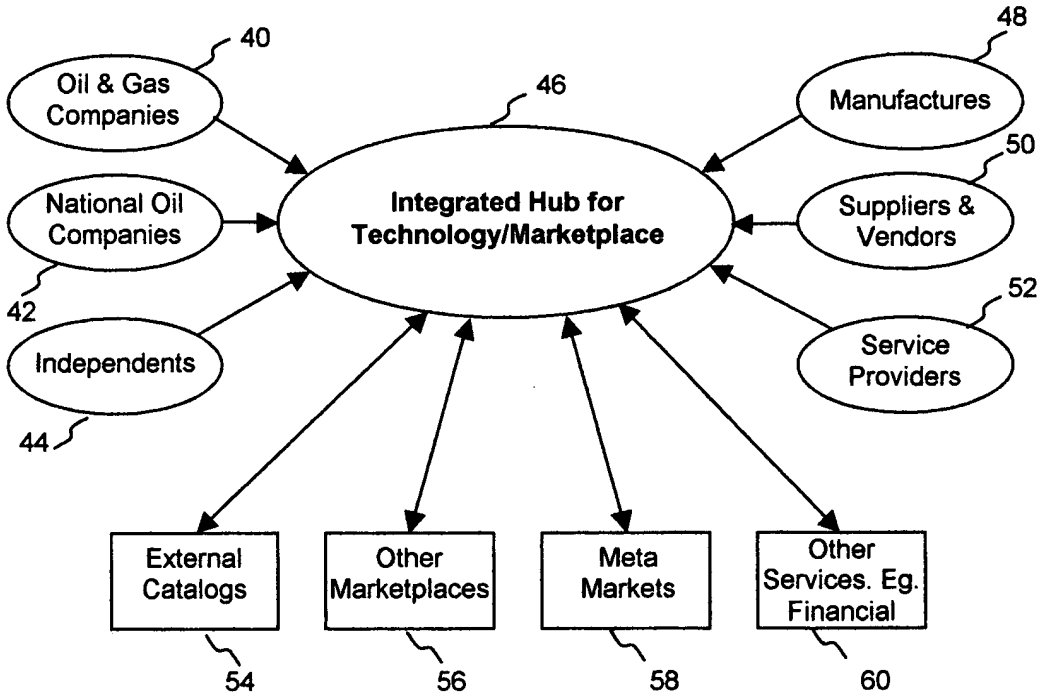


Figure 3:

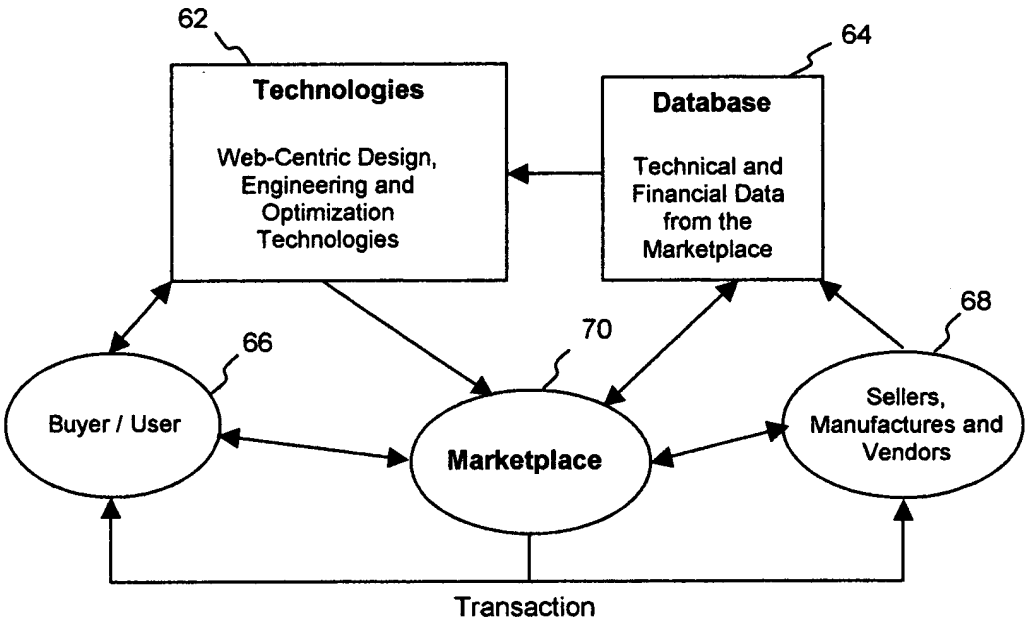


Figure 4A:

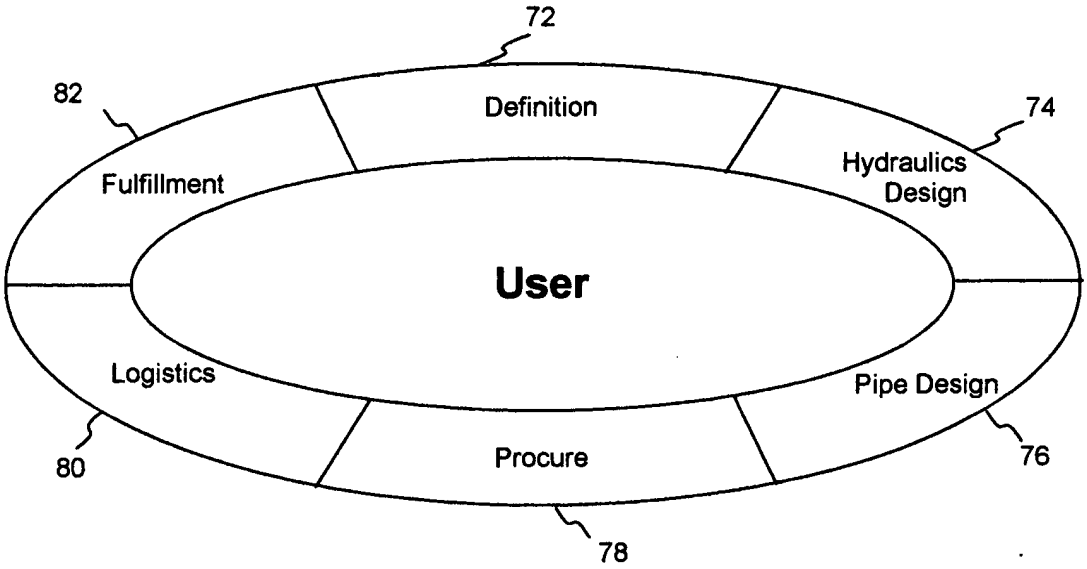


Figure 4B.

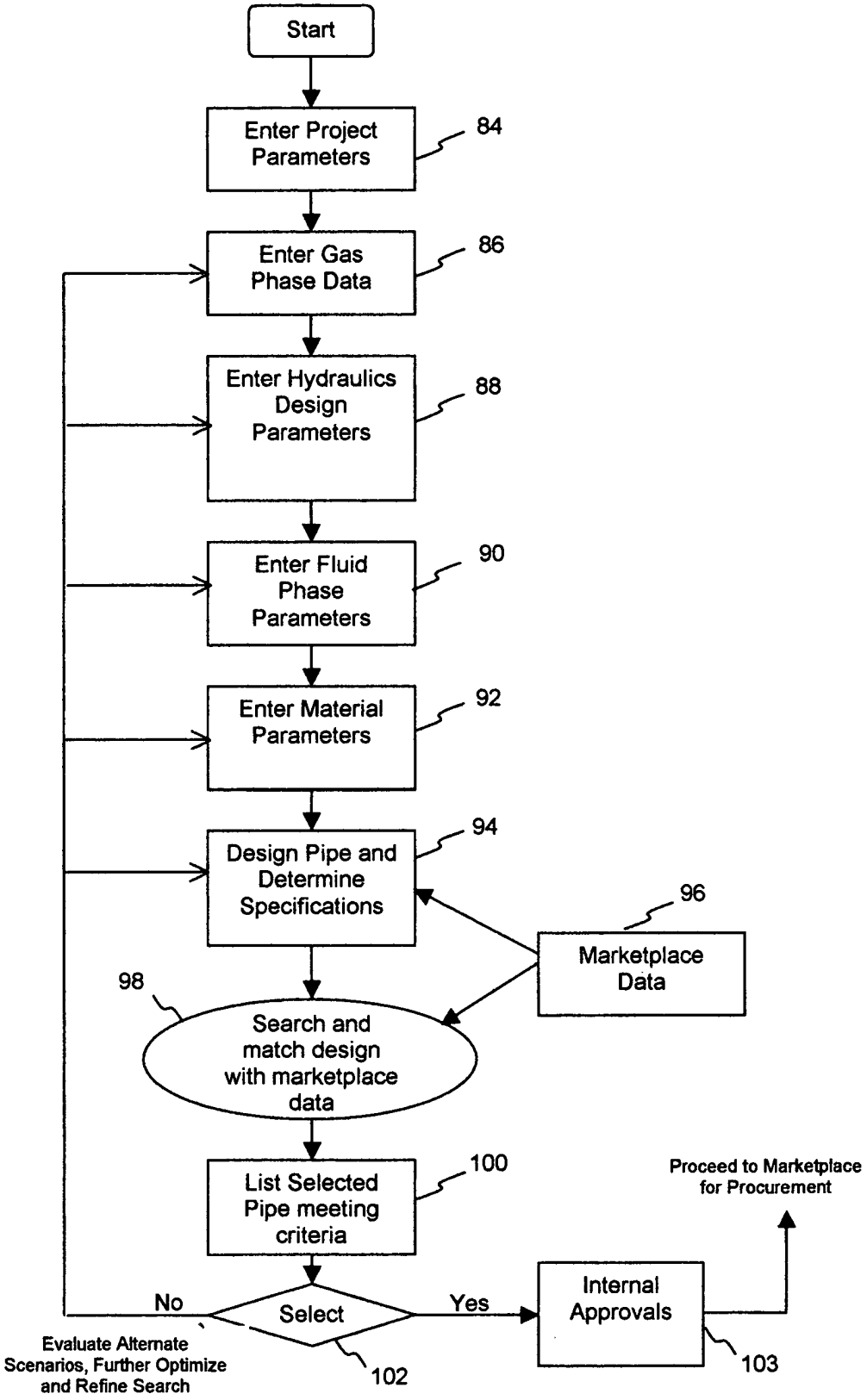
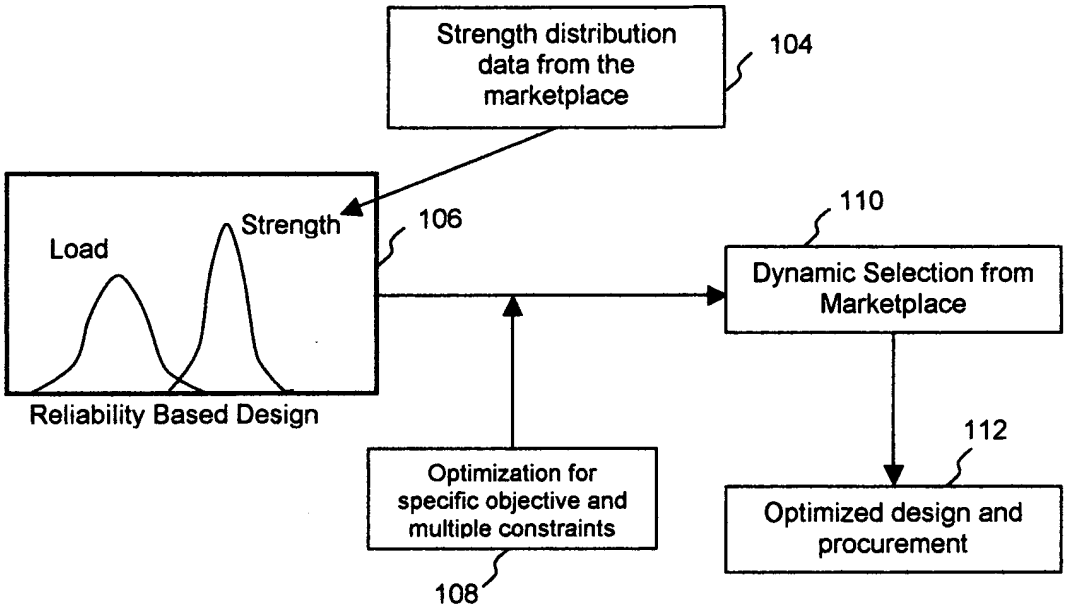

Start
Enter Project Parameters
84
Enter Gas Phase Data
86
Enter Hydraulics Design Parameters
88
Enter Fluid Phase Parameters
90
Enter Material Parameters
92
Design Pipe and Determine Specifications
94
96
Marketplace Data
98
Search and match design with marketplace data
List Selected Pipe meeting criteria
100
Proceed to Marketplace for Procurement
No
Select
Yes
Internal Approvals
Evaluate Alternate Scenarios, Further Optimize and Refine Search
102
103

Figure 5A:


Strength distribution data from the marketplace
104
Load
Strength
106
Reliability Based Design
110
Dynamic Selection from Marketplace
112
Optimized design and procurement
Optimization for specific objective and multiple constraints
108

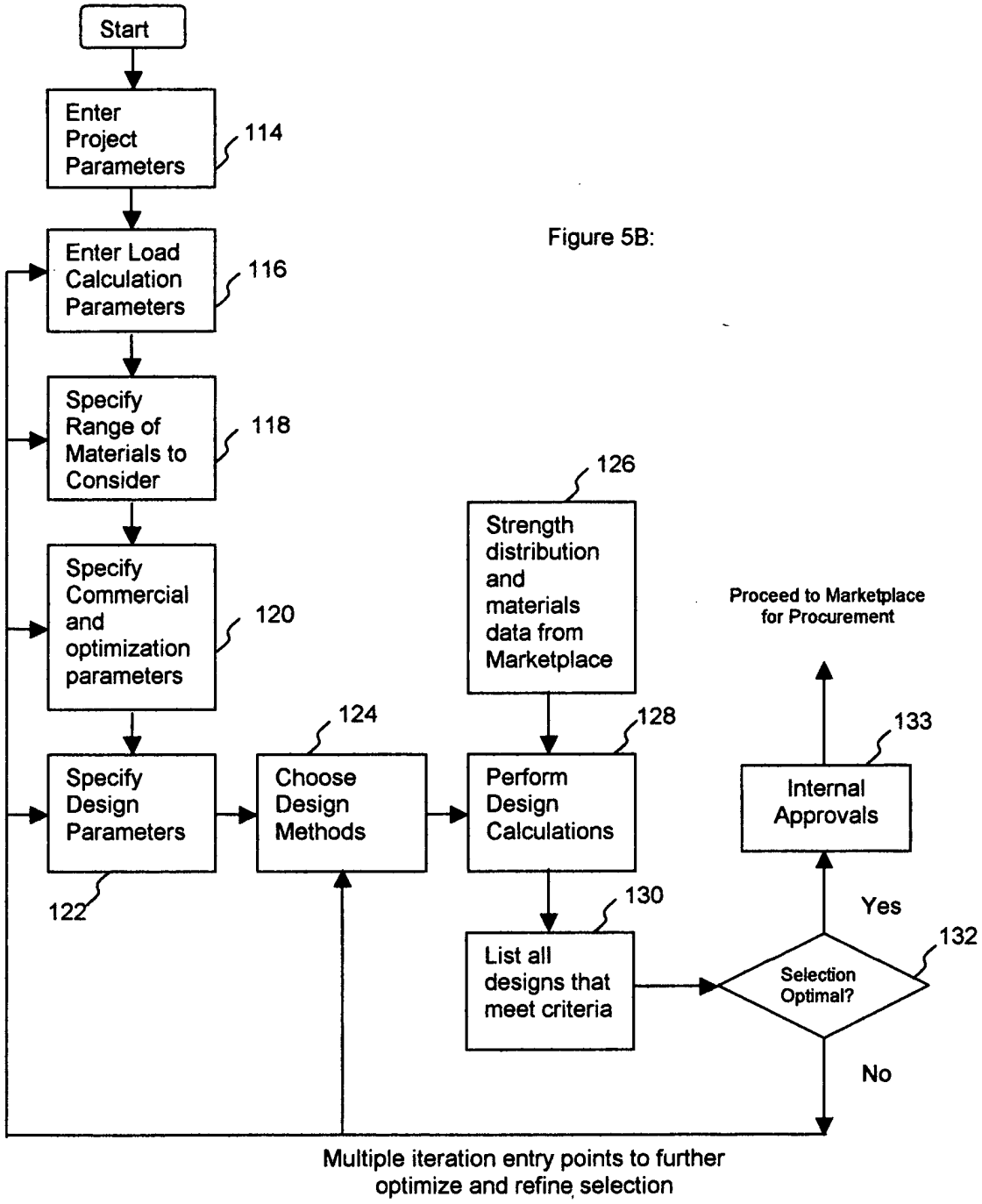

Start
Enter Project Parameters
114
Enter Load Calculation Parameters
116
Specify Range of Materials to Consider
118
Specify Commercial and optimization parameters
120
Specify Design Parameters
122
Choose Design Methods
124
Strength distribution and materials data from Marketplace
126
Perform Design Calculations
128
List all designs that meet criteria
130
Selection Optimal?
132
Yes
No
Internal Approvals
133
Proceed to Marketplace for Procurement
Multiple iteration entry points to further optimize and refine selection

Figure 5B: